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| 09/577,231      | 05/23/2000  | Lundy Lewis          | APB-021             | 3634             |

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| EXAMINER |
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ENGLAND, DAVID E

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| ART UNIT | PAPER NUMBER |
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2143

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/27/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/577,231

Applicant(s)

LEWIS, LUNDY

Examiner

David E. England

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4 and 13-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4, 13-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

1. Claims 4 and 13 – 62 are presented for examination.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhoj et al. (6304892) (hereinafter Bhoj) in further view of Yemini et al. (6249755) (hereinafter Yemini).
4. As per claim 4, as closely interpreted by the Examiner, Bhoj teaches a method of monitoring a state of service supported by a network, wherein the network includes a plurality of network components, wherein the service supports a business process under service level management in association with a service level management domain, the method comprising the steps of:
  5. selecting one or more network components on which the service depends from among the plurality of network components, (e.g., col. 5, line 65 – col. 6, line 35);
  6. monitoring the one or more select network components to determine the state of the service , (e.g. col. 3, line 62 – col. 4, line 11 & col. 8, lines 3 – 20);

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7. monitoring the state of the service to detect a change in the state, (e.g. col. 3, line 62 – col. 4, line 11 & col. 8, lines 3 – 20), but does not specifically teach when the state of the service changes, determining a cause of the change in the state of the service by performing an action, the action comprising one or more of:
8. invoking a routine to determine an operational characteristic of at least one of the one or more selected network components,
9. constructing a database query to determine the operational characteristic of at least one of the selected network components.
10. Yemini teaches selecting one or more network components on which the service depends from among the plurality of network components, (e.g., col. 8, lines 14 – 59);
11. monitoring the state of the service to detect a change in the state, (e.g., col. 8, lines 17 – 67); and
12. mapping the one or more selected network components to the service, (e.g., col. 8, lines 17 – 67);
13. when the state of the service changes, determining a cause of the change in the state of the service by performing an action, the action comprising one or more of:
14. invoking a routine to determine an operational characteristic of at least one of the one or more selected network components,
15. constructing a database query to determine the operational characteristic of at least one of the selected network components, (e.g., col. 8, lines 17 – 67), and
16. requesting a change to one or more parameters of at least one of the selected network components.

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17. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yemini with Bhoj because mapping out where a problem is occurring in a network can aid in finding a resolution to fix said network problem.

18. Claims 13 – 17, 19 – 35, 37 – 53 and 55 – 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yemini et al. (6249755) (hereinafter Yemini) in view of Bhoj et al. (6304892) (hereinafter Bhoj) in further view of Taghadoss (6052722).

19. As per claim 13, as closely interpreted by the Examiner, Yemini teaches a method for monitoring a service, the service supporting a business process under service level management in association with a service level agreement, wherein the service is monitored by an enterprise management system, wherein the business process depends on at least a portion of a network, the method comprising the steps of:

20. mapping at least one component of the network on which the service depends to the service, (e.g., col. 8, lines 17 – 67);

21. monitoring, at the enterprise management system, at least one parameter of the mapped network component, the at least one parameter indicating an operational characteristic of the network component that is indicative of a state of the service, wherein the state of the service is indicative of a current level of service relative to an agreed upon level of service in the service level agreement, (e.g., col. 12, lines 22 – 53), but does not specifically teach determining, at the enterprise management system, the state of the service from the parameter of the monitored network component; and

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22. monitoring, at the enterprise management system, the state of the service to provide service level management for the business process that indicates the current level of service relative to the agreed upon level of service.

23. Bhoj more clearly teaches a method for monitoring a service supporting a business process under service level management in association with a service level agreement, wherein the service is monitored by an enterprise management system, wherein the business process depends on at least a portion of a network, the method comprising the steps of:

24. mapping at least one component of the network on which the service depends to the service, (e.g., col. 5, line 65 – col. 6, line 35);

25. monitoring, at the enterprise management system, the state of the service to provide service level management for the business process that indicates the current level of service relative to the agreed upon level of service, (e.g. col. 3, line 62 – col. 4, line 11 & col. 8, lines 3 – 20). It would have been obvious to one of ordinary skill in the art, at the time the invention was conceived, to combine Bhoj with Yemini because it allows management of the services of the entire data access network system (or part of it) without any one domain having complete access to each of the data service systems of the data access network system. This also allows the data service systems to exchange information about how a service provider is complying with its service level agreements with its customer, outsourcer, or partner. In addition, the arrangement enables the customers of the data access network system to monitor and verify the delivered services against the guarantees offered by their service providers without having complete access to the service provider's system, (e.g., Bhoj, cols. 3 – 4).

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26. Taghadoss teaches associating a component of the network to the service supporting the business process under service level management in association with the service level agreement, (e.g., col. 5, lines 16 – 36);

27. determining, at the enterprise management system, the state of the service from the parameter of the monitored network component, (e.g., col. 5, lines 16 – 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Taghadoss with the combine system of Yemini and Bhoj because of similar reasons stated above.

28. Referencing claim 27, as closely interpreted by the Examiner, Yemini teaches a system for monitoring a service supporting a business process under service level management in association with a service level agreement, wherein the service is monitored by an enterprise management system, wherein the business process is performable in connection with at least a portion of a network, the system comprising:

29. a monitoring mechanism for monitoring a parameter of the associated network component at the enterprise management system, the parameter indicating an operational characteristic of the network component that is indicative of a state of the service, wherein the state of the service is indicative of a current level of service relative to an agreed upon level of service in the service level agreement, (e.g. col. 2, lines 4 – 46); and

30. a service monitoring mechanism for monitoring, at the service management system, the state of the service supporting the business process to provide service level management of the business process that indicates the current level of service relative to the agreed upon level of service, (e.g. col. 2, lines 4 – 46). Yemini does not specifically teach a mapping mechanism for

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associating a component of the network to the service supporting the business process under service level management in association with the service level agreement;

31. a reasoning mechanism for determining, at the service management system, the state of the service from the parameter of the monitored network component.

32. Bhoj teaches a system for monitoring a service supporting a business process under service level management in association with a service level agreement, wherein the service is monitored by an enterprise management system, wherein the business process is performable in connection with at least a portion of a network, the system comprising:

33. a mapping mechanism for associating a component of the network to the service supporting the business process under service level management in association with the service level agreement, (e.g. col. 3, line 62 – col. 4, line 11 & col. 8, lines 3 – 20). It would have been obvious to one of ordinary skill in the art, at the time the invention was conceived, to combine Bhoj with Yemini because it allows management of the services of the entire data access network system (or part of it) without any one domain having complete access to each of the data service systems of the data access network system. This also allows the data service systems to exchange information about how a service provider is complying with its service level agreements with its customer, outsourcer, or partner. In addition, the arrangement enables the customers of the data access network system to monitor and verify the delivered services against the guarantees offered by their service providers without having complete access to the service provider's system.



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34. Taghadoss teaches a mapping mechanism for associating a component of the network to the service supporting the business process under service level management in association with the service level agreement, (e.g., col. 5, lines 16 – 36);

35. a reasoning mechanism for determining, at the service management system, the state of the service from the parameter of the monitored network component, (e.g., col. 5, lines 16 – 36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Taghadoss with the combine system of Yemini and Bhoj because of similar reasons stated above.

36. Referencing claim 28, as closely interpreted by the Examiner, Yemini teaches the mapping mechanism associates a parameter of the service with the parameter of the associated network component, the service parameter comprising a variable having a state which represents an operational characteristic of the service provided by the network, (e.g. col. 2, lines 4 – 46).

37. Referencing claim 29, as closely interpreted by the Examiner, Yemini teaches a value for the service parameter is determined from a value of the parameter of the associated network component, (e.g. col. 8, lines 17 – 67).

38. Referencing claim 30, as closely interpreted by the Examiner, Yemini teaches the reasoning mechanism comprises a rule-based reasoning system for determining the condition of the service teaches, (e.g. col. 2, line 47 – col. 3, line 50).

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39. Referencing claim 31, as closely interpreted by the Examiner, Yemini teaches the reasoning mechanism comprises a model-based reasoning system for determining the condition of the service, (e.g. col. 5, lines 42 – 64).

40. Referencing claim 32, as closely interpreted by the Examiner, Yemini teaches the reasoning mechanism comprises a case-based reasoning system for determining the condition of the service, (e.g. col. 3, line 51 – col. 4, line 27).

41. Referencing claim 33, as closely interpreted by the Examiner, Yemini the reasoning mechanism comprises a state-transition graph reasoning system for determining the condition of the service, (e.g. col. 12, line 54 – col. 13, line 7, “*causality graph*”).

42. Referencing claim 34, as closely interpreted by the Examiner, Yemini teaches the reasoning mechanism comprises a codebook reasoning system for determining the condition of the service, (e.g. col. 9, lines 1 – 30).

43. Referencing claim 35, as closely interpreted by the Examiner, Yemini teaches the reasoning mechanism determines the condition of the service from a mathematical simulation of the service, (e.g. col. 24, line 29 – col. 25, line 8).

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44. Referencing claim 40, as closely interpreted by the Examiner, Yemini teaches the operation invokes a query to a database to determine the operational characteristic of the network component, (e.g. col. 7, lines 9 – 60).

45. Referencing claim 41, as closely interpreted by the Examiner, Yemini teaches the operation invokes a second reasoning mechanism to determine the operational characteristic of the service, (e.g. col.12, line 54 – col. 13, line 7 & col. 16, line 53 – col. 17, line 40).

46. Referencing claim 42, as closely interpreted by the Examiner, Yemini teaches the operation invokes an inspection of the operational characteristic of the network component, (e.g. col.12, line 54 – col. 13, line 7 & col. 16, line 53 – col. 17, line 40).

47. Referencing claim 43, as closely interpreted by the Examiner, Yemini teaches the inference mechanism selects rules from the rule repository and invokes operations to implement the selected rules until the service achieves a desired condition, (e.g. col.12, line 54 – col. 13, line 7 & col. 16, line 53 – col. 17, line 40).

48. Referencing claim 44, as closely interpreted by the Examiner, Yemini teaches the service parameter represents one or more of the following operational characteristics of the service:

49. availability;

50. reliability;

51. usability;

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52. integrity;

53. security;

54. performance;

55. configuration; and

56. status, (e.g. col. 8, lines 17 – 67).

57. Claims 13 – 17, 18 – 26, 37 – 39, 45 – 53 and 55 – 62 are rejected for similar reasons as stated above.

58. Claims 18, 36 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yemini, Bhoj and Taghadoss as applied to claims 13, 27, 35 and 49 above, and in further view of Glitho et al. (6233449) (hereinafter Glitho).

59. As per claim 36, as closely interpreted by the Examiner, Yemini teaches an action being taken when the parameter of the monitored network component crosses a threshold, (e.g. col. 25, lines 9 – 18), but does not specifically teach the use of an agent associated with the monitored network component to generate an alarm. Glitho teaches the use of an agent associated with the monitored network component to generate an alarm, (e.g. col. 7, lines 12 – 45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Glitho with the combine system of Yemini, Bhoj and Taghadoss because utilizing an alarm in a system could alert a user about different fault events from a hardware or software device, giving the user a chance to correct any faults in the system.

60. Claims 18 and 54 are rejected for similar reasons as stated above.

***Response to Arguments***

61. Applicant's arguments filed 11/27/2006 have been fully considered but they are not persuasive.

62. **In the Remarks**, Applicant argues in substance that neither Bhoj nor Yemeni, teach or suggest, "selecting one or more network components on which the service depends from among the plurality of network components" [and] "mapping the one or more selected network components to the service," as recited in claim 4.

63. As to the first argument, Examiner asks the Applicant to draw their attention to the claim language that was newly added to claim 4, in which it states selecting **one or more** network components. This could be interpreted as the method always selecting all of the network components to be monitored. This would lead one to interpret the claim language in similar light of the prior art of Bhoj and Yemeni, in that all components, when entered into the system, are automatically "selected" to be monitored. Furthermore, the Applicant's specification discloses the "component" to possibly be, *"A network includes four general categories of components: transmission devices, transmission media (also referred to as lines or links) among the devices, computer systems, and applications (residing on the computer systems and transmission*

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*devices). A component is used broadly herein to include hardware, software, firmware, applications, processes, etc. Computer systems include servers, desktops, workstations, etc. Transmission media is used broadly to include copper, wireless, optical, satellite, etc. Network is also used broadly to include a business network (sometimes called an enterprise, typically owned by the business), a service provider network (not typically owned by the SP, e.g., an intermediary between the Internet and customer), telephony networks, etc. The information conveyed on the network is meant to broadly include data, voice, video, etc. ", page 20 of Applicant's*

specification. This definition of components is very broad even by Applicant's definition.

Yemeni teaches in column 8, for example, a component being monitored and the component is defined as a Link which is within the range of the Applicant's broad definition. Furthermore, with respect to mapping the one or more selected network components to the service is also taught by the prior art above. More specifically, as an example, Yemeni teaches a relationship to a service that has failed and a matrix to place this data in, column 8 et seq. As stated in column 8, if a relationship is connected to a link and an event such as a link failure then it is obvious what the service of the link is and that would be to provide a communication between two nodes and that the connection is faulty. This is just one example of how the prior art reads on the claim language. Furthermore, relationship information is also taught in Bhoj in columns 6 et seq. more specifically, as an example, column 9, lines 25 – 52, which state the service a server would have such as email and a measurement and metrics that are available from each component that is being monitored.

64. Applicant further argues that the prior art used to teach the limitations of the independent claims of 13, 27 and 49 are also not present, citing the same limitation of mapping as described

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above. Not only does the prior art of Bhoj and Yemeni teach mapping, Applicant even admits in their arguments stated on page 16 of the Remarks that Taghadoss teaches a type of mapping as is quoted by the Applicant, “Taghadoss relate to a “more efficient way of identifying the actual state and operational status of managed network resources.” Taghadoss states that a network resource could be “physical hardware, subnetworks, networks, end-to-end paths, customers, etc.”, column 5, lines 32 – 35, and the operational status could be interpreted as the service that is stated by the Applicant. All of which would read on the claim language.

### *Conclusion*

65. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

66. a. Shurmer et al. U.S. Patent No. 5974237 discloses Communications network monitoring.

67. b. Main et al. U.S. Patent No. 5893905 discloses Automated SLA performance analysis monitor with impact alerts on downstream jobs.

68. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David E. England  
Examiner  
Art Unit 2143

DE



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